

THE MARINE PROTECTED AREAS OF THE BALEARIC SEA

Introduction, evolution and use



What are marine protected areas?

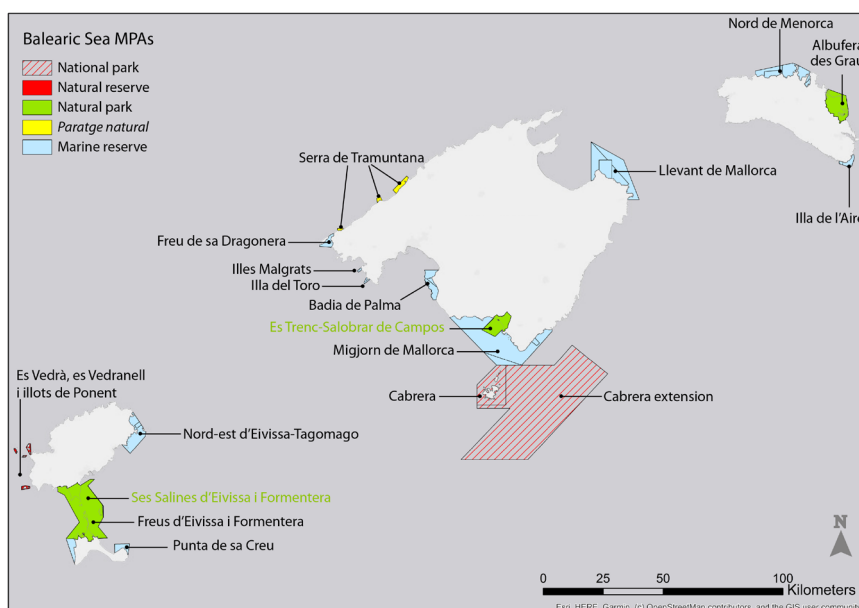
Marine Protected Areas (MPAs) are portions of the marine environment, connected or not to the coast, that are afforded some kind of protection. MPAs are used globally as tools to regenerate marine ecosystems with the twofold objective of (i) increasing the productivity of fishing resources and (ii) conserving marine habitats and species.

We define MPAs as zones where industrial or semi-industrial fishing (bottom or mid-water trawling, purse seining and surface longlining) is banned, and where artisanal or recreational fishing is regulated.

We define the Balearic Sea as the body of water located from the shoreline to the 1,000-m water depth isobath, occupying a surface of 28,290 km².

The level of protection in MPAs varies depending on their management figures and the competent administrations. In the Balearic Sea, MPAs are located in the interior waters, controlled by the government of the Balearic Islands and the island governments – *Consells* –, and the exterior waters, controlled by the Spanish government. Interior waters are included inside the polygon marked by plotting straight lines between the capes of each island, whereas exterior waters are those that lie outside.

Figure 1. Map of the Balearic Islands showing marine protection figures: 11 fishing marine reserves (blue), 1 national park (red dotted line), 3 natural parks (green) and 1 *paratge natural* - natural area of national interest - (yellow). Green typeface indicates natural parks inside fishing marine reserves. The map does not show Natura 2000 marine sites.



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Table 1. Description of the different types of Marine Protected Areas (MPAs) in the Balearic Sea and their fishing restriction characteristics. “/”: recreational fishing is allowed under certain conditions. *Includes the Natural Park of *Ses Salines d'Eivissa i Formentera*, an area of 136.12 km² (2001). **Includes the terrestrial-marine Natural Park *Es Trenc-Salobrar de Campos*, an area of 23.27 km².

MPA category	MPA name	Year	MPA area (km ²)	No-take zone area (km ²)	Area forbidden recreational fishing (km ²)	Area forbidden underwater fishing (km ²)
Marine reserve	Badia de Palma	1982	23.94	2	2	2
National park	Cabrera	1991	86.78	2.15	2.15	2.15
Marine reserve	Nord de Menorca	1999	50.85	11.11	11.11	50.85
Marine reserve	Freus d'Eivissa i Formentera *	1999	136.17	4.27	4.27	136.17
Marine reserve	Migjorn de Mallorca **	2002	223.23	2.93	19.65	42.92
Nature reserve	Es Vedrà, es Vedranell i illots de Ponent	2002	5.65	–	–	–
Natural park	Albufera des Grau	2003	17.36	–	–	–
Marine reserve	Illa del Toro	2004	1.5	–	/	1.50
Marine reserve	Illes Malgrats	2004	0.89	–	/	0.89
Paratge natural	Serra de Tramuntana	2007	11.23	–	–	–
Marine reserve	Llevant de Mallorca	2007	112.86	20.05	20.05	112.86
Marine reserve	Freu de sa Dragonera	2016	9.12	–	/	9.12
Marine reserve	Punta de sa Creu	2018	10.59	–	/	10.59
Marine reserve	Nord-est d'Eivissa-Tagomago	2018	37.38	2.28	2.28	37.38
National park	Extension NP. Cabrera	2019	908	–	908	908
Marine reserve	Illa de l'Aire	2019	7.19	–	2.52	7.19
TOTAL (km ²)			1642.74	44.79	972.03	1319.47
% Balearic Sea			5.81	0.16	3.44	4.67
% littoral waters			32.85	0.90	19.44	26.43

What types of MPAs are there in the Balearic Sea?

To date, the Balearic Sea contains the following marine conservation figures (Fig. 1, Table 1):

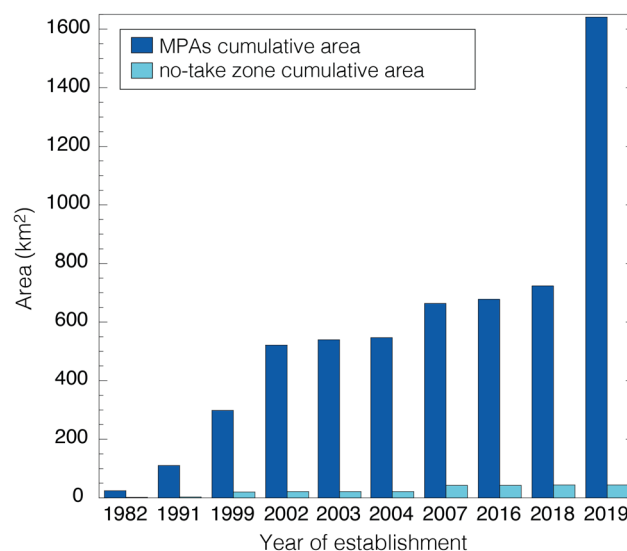
- 1) **National Parks** (*Cabrera Archipelago*): only small-scale artisanal fishing is allowed in some of the park's areas;
- 2) **Natural Parks** (*s'Albufera des Grau, Ses Salines, Es Trenc-Salobrar de Campos*): artisanal and recreational fishing are allowed without any limitations. Underwater spear fishing is only permitted in *s'Albufera des Grau*;
- 3) **Paratge Natural** - Natural area of national interest - (*Serra de Tramuntana*): artisanal and recreational fishing are allowed. Underwater spear fishing is allowed with the relevant permit;
- 4) **Natural Reserves** (*Es Vedrà and Es Vedranell, illots de Ponent*): artisanal and recreational fishing are allowed without any limitations. Underwater spear fishing is allowed with a permit;
- 5) **Natura 2000 sites**: designed under the European Habitats Directive (1992) and the Birds Directive (2009). They include sites of community importance (SCIs) and/or special protection areas (SPAs) for wild birds;
- 6) **Marine reserves of fishing interest** (*Badia de Palma, Nord de Menorca, els Freus d'Eivissa i Formentera, Migjorn de Mallorca, Illa del Toro, Illes Malgrats, Llevant de Mallorca, Freu de sa Dragonera, Punta de sa Creu, Nord-est d'Eivissa-Tagomago, Illa de l'Aire*): fishing protection figures created with the objective of increasing the biomass of commercial fishing stocks. Artisanal fishing is allowed. Recreational fishing is allowed with limitations. Underwater spear fishing is forbidden in all fishing marine reserves with the exception of *Badia de Palma* and *Migjorn de Mallorca* that are under the Directorate-General for Fisheries and Marine Affairs, since the Law was enacted after the declaration of these reserves.

Of all the marine conservation figures cited, only the *Cabrera Archipelago National Park* and the 11 fishing marine reserves include surface areas that are totally closed to fishing activities, i.e. no-take zones.

What is the evolution of MPAs in the Balearic Sea?

Since 1982, MPAs have accumulated a total area of 1,642.7 km² (Table 1). In 2019, the area of marine reserves has increased by 55.7 % (from 727.55 km² in 2018 to 1,642.7 km² in 2019) as a result of the extension of the *Cabrera Archipelago National Park*, with 908 km² (Fig.1, Table 1). The total no-take zone is 45 km² (Fig. 1, Table 1).

Figure 2. Histogram indicating the cumulative surface in marine protected areas (MPA) and in no-take zones.



What surface area is closed to fishing activities?

To put the total protected area and the type of fishing activity prohibited (no-take zones, recreational and underwater spear fishing) into perspective, data are presented for:

1. The Balearic Sea, contour of the submerged Balearic promontory to a depth of 1,000 m. It generates a total area of 28,290 km² (Fig. 3A);

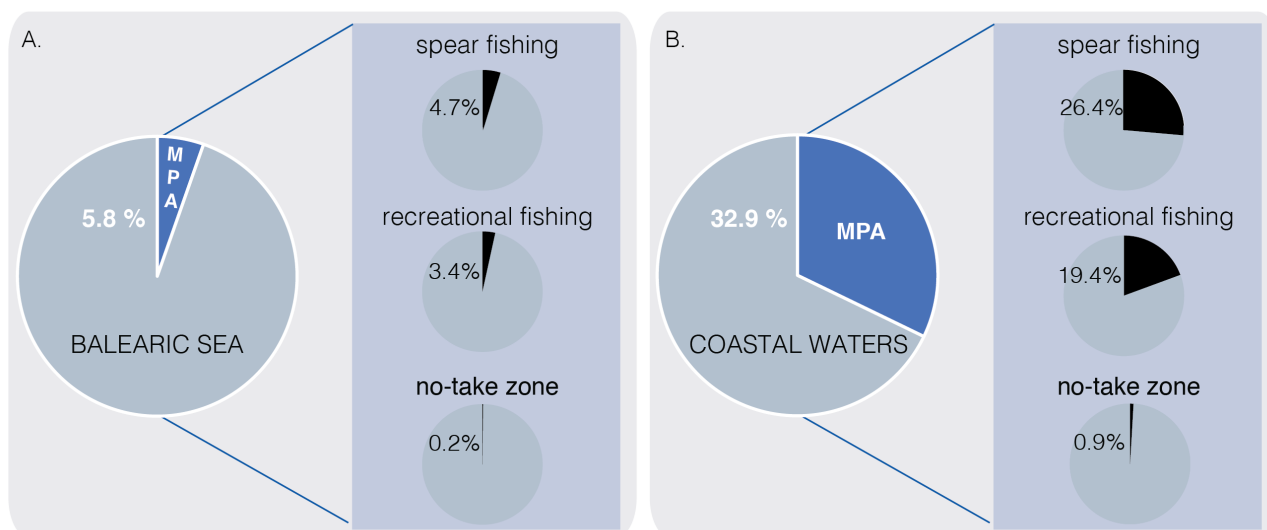
2. Coastal waters, considering an area of approximately 5,000 km² (Fig. 3B).

The results show that the total **protected area** in MPAs is 1,608.5 km². This means that **5.8%** of the Balearic Sea owns some kind of fishing protection, resulting in 32.9 % when the 5,000 km² of coastal waters are counted.

In terms of the area **closed to underwater and recreational fishing**, underwater spear fishing is prohibited in 1,321.62 km². This area represents 4.7% of the Balearic Sea and 26.4% of coastal waters. Recreational fishing is banned in 972.03 km², which is equivalent to **3.4%** of the Balearic Sea area and 19.4% of coastal waters.

Finally, the no-take zone comprises 44.8 km², i.e. **0.16%** of the Balearic Sea and 0.9% of the coastal waters completely closed to fishing activities.

Figure 3. Pie charts describing the type of fishing restriction (underwater and recreational fishing and no-take zones) for (A) the Balearic Sea = 28,290 km² and (B) coastal waters estimated as ≈ 5,000 km².



RESULTS

- In the last four decades, the MPAs of the Balearics have gradually increased, and now cover a total area of 1,642.7 km². This area includes 44.8 km² of no-take zone, equivalent to 0.16% of the Balearic Sea closed to fishing.
- Marine protected surfaces doubled from 727.55 km² in 2018 to 1,642.7 km² in 2019.
- In 40 years, no-take zones have increased from 2 km² to 44.8 km².
- Over the last 40 years, MPAs have increased 37 times more than no-take zones.
- Submarine spear fishing is not allowed in 4.7% of the Balearic Sea (26.4% of coastal waters).
- Recreational fishing is not permitted in 3.4% of the Balearic Sea (19.4% of coastal waters).